

# Ultrasonic Irrigating Needle Device for Endodontics

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## Technology description

### Summary

This device utilizes the benefits of ultrasonic energy to significantly improve the cleaning of the entire root canal space while also effectively delivering irrigating, or other fluids, into the root canal space for improved distribution and placement of these fluids.

In Endodontics, research has shown that debridement, or removal of material from the root canal space, is of paramount importance for the success of a root canal to reduce the risk of infection and failure of the procedure. Traditional chemo-mechanical techniques using hand filing or contemporary rotary instrumentation remove the bulk of tissue and debris from the root canal space. However, it has been shown that tissue remains within the canal system in the apical third region of the canal and in areas that instruments cannot reach, i.e. isthmuses. Ultrasonic energy has been shown to improve cleaning/debridement of the root canal space as well as improve/enhance placement of medicaments, sealers and obturating materials.

Researchers at The Ohio State University have designed an ultrasonic endodontic device which can fit most currently available ultrasonic units. It has significant clinical benefits to practicing dentists and endodontists by providing enhanced debridement efficiency and thus, better clinical success.

### Institution

[The Ohio State University](#)

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